Unit 3: Competing with Information Technology

Fundamentals of Strategic Advantage

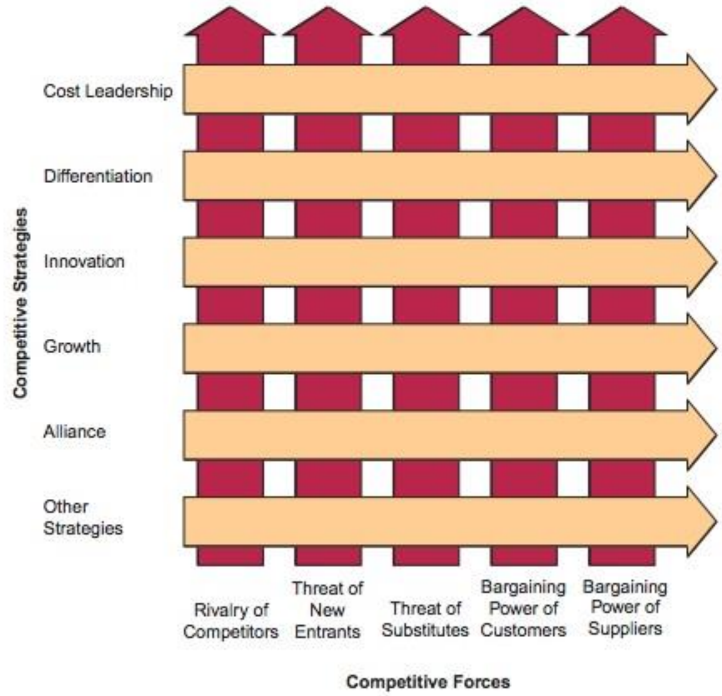
Strategic IT

- Information technology can change the way businesses compete.
- We should also view information systems strategically, that is, as vital competitive networks, as a means of organizational renewal, and as a necessary investment in technologies; such technologies help a company adopt strategies and business processes that enable it to reengineer or reinvent itself to survive and succeed in today's dynamic business environment.

Competitive Strategy Concepts

- The strategic role of information systems involves using information technology to develop products, services, and capabilities that give a company major advantages over the competitive forces it faces in the global marketplace.
- This role is accomplished through a strategic information architecture: the collection of **strategic information systems** that supports or shapes the competitive position and strategies of a business enterprise.
- So a strategic information system can be any kind of information system (e.g., TPS, MIS, and DSS) that uses information technology to help an organization gain a competitive advantage, reduce a competitive disadvantage, or meet other strategic enterprise objectives.
- Figure below illustrates the various competitive forces a business might encounter, as well as the competitive strategies that can be adopted to counteract such forces. It is important to note that the figure suggests that any of the major strategies may be deemed useful against any of the common competitive forces. Although it is rare and unlikely that a single firm would use all strategies simultaneously, each has value in certain circumstances. For now, it is only important that you become familiar with the available strategic approaches. Let us look at several basic concepts that define the role of competitive strategy as it applies to information systems.

FIGURE 2.2
Businesses can develop competitive strategies to counter the actions of the competitive forces they confront in the marketplace.



Rivalry of Competitors

- Competition is a positive characteristic in business, and competitors share a natural, and often healthy, rivalry. This rivalry encourages and sometimes requires a constant effort to gain competitive advantage in the marketplace. This ever-present competitive force requires significant resources on the part of a firm.

Threat of New Entrants

- Guarding against the threat of new entrants also requires the expenditure of significant organizational resources. Not only do firms need to compete with other firms in the marketplace, but they must also work to create significant barriers to the entry of new competition. This competitive force has always been difficult to manage, but it is even more so today. The Internet has created many ways to enter the marketplace quickly and with relatively low cost. In the Internet world, a firm’s biggest potential competitor may be one that is not yet in the marketplace but could emerge almost overnight.

Threat of Substitutes

- The threat of substitutes is another competitive force that confronts a business. The effect of this force is apparent almost daily in a wide variety of industries, often at its strongest during periods of rising costs or inflation. When airline prices get too high, people substitute car travel for their vacations. When the cost of steak gets too high, people eat more hamburger and fish. Most products or services have some sort of substitute available to the consumer.

Bargaining Power of Customers and Suppliers

- Finally, a business must guard against the often opposing forces of customer and supplier bargaining powers. If customers' bargaining power gets too strong, they can drive prices to unmanageably low levels or just refuse to buy the product or service. If a key supplier's bargaining power gets too strong, it can force the price of goods and services to unmanageably high levels or just starve a business by controlling the flow of parts or raw materials essential to the manufacture of a product.

Above figure also illustrates that businesses can counter the threats of competitive forces that they face by implementing one or more of the five basic **competitive strategies.**

Cost Leadership Strategy

- Becoming a low-cost producer of products and services in the industry or finding ways to help suppliers or customers reduce their costs or increase the costs of competitors.

Differentiation Strategy

- Developing ways to differentiate a firm's products and services from those of its competitors or reduce the differentiation advantages of competitors. This strategy may allow a firm to focus its products or services to give it an advantage in particular segments or niches of a market.

Innovation Strategy

- Finding new ways of doing business. This strategy may involve developing unique products and services or entering unique markets or market niches (recess). It may also involve making radical changes to the business processes for producing or distributing products and services that are so different from the way a business has been conducted that they alter the fundamental structure of an industry.

Growth Strategies

- Significantly expanding a company's capacity to produce goods and services, expanding into global markets, diversifying into new products and services, or integrating into related products and services.

Alliance Strategies

- Establishing new business linkages and alliances with customers, suppliers, competitors, consultants, and other companies. These linkages may include mergers, acquisitions, joint ventures, formation of virtual companies, or other marketing, manufacturing, or distribution agreements between a business and its trading partners.

- Competitive strategies are not mutually exclusive. An organization may make use of one, some, or all of the strategies in varying degrees to manage the forces of competition.
- Therefore, a given activity could fall into one or more of the categories of competitive strategy.

- For example, implementing a system that allows customers to track their orders or shipments online could be considered a form of differentiation if the other competitors in the marketplace do not offer this service. If they do offer the service, however, online order tracking would not serve to differentiate one organization from another.
- If an organization offers its online package tracking system in a manner that allows its customers to access shipment information via not only a computer but a mobile phone as well, then such an action could fall into both the differentiation and innovation strategy categories.
- Not everything innovative will serve to differentiate one organization from another. Likewise, not everything that serves to differentiate organizations is necessarily viewed as innovative. These types of observations are true for any combination of the competitive strategies, thus making them complementary to each other rather than mutually exclusive.

Strategic Uses of Information Technology

- The key strategies that can be implemented with information technology includes:
    a. locking in customers or suppliers,
    b. building switching costs,
    c. raising barriers to entry, and
    d. leveraging investment in information technology

a. Lock in customers or suppliers

- Investments in information technology can allow a business to lock in customers and suppliers (and lock out competitors) by building valuable new relationships with them.
- These business relationships can become so valuable to customers or suppliers that they deter (discourage) them from abandoning a company for its competitors or intimidate (frighten) them into accepting less profitable business arrangements.
- Early attempts to use information systems technology in these relationships focused on significantly improving the quality of service to customers and suppliers in a firm's distribution, marketing, sales, and service activities.
- More recent projects characterize a move toward more innovative uses of information technology.

b. Building switching costs

- A major emphasis in strategic information systems has been to find ways to create switching costs in the relationships between a firm and its customers or suppliers.
- In other words, investments in information systems technology can make customers or suppliers dependent on the continued use of innovative, mutually beneficial inter-enterprise information systems.
- They then become reluctant (unwilling or hesitant) to pay the costs in time, money, effort, and inconvenience that it would take to switch to a company's competitors.

c. Raising barriers to entry

- By making investments in information technology to improve its operations or promote innovation, a firm could also raise barriers to entry that would discourage or delay other companies from entering a market.
- Typically, these barriers increase the amount of investment or the complexity of the technology required to compete in an industry or a market segment.
- Such actions tend to discourage firms already in the industry and deter external firms from entering the industry.

d. Leveraging investment in information technology

- Investing in information technology enables a firm to build strategic IT capabilities so that they can take advantage of opportunities when they arise.
- In many cases, this happens when a company invests in advanced computerbased information systems to improve the efficiency of its own business processes. Then, armed with this strategic technology platform, the firm can leverage investment in IT by developing new products and services that would not be possible without a strong IT capability.
- An important current example is the development of corporate intranets and extranets by many companies, which enables them to leverage their previous investments in Internet browsers, PCs, servers, and client/server networks. Figure 2.5 summarizes the additional strategic uses of IT we have just discussed.

FIGURE 2.3
A summary of how information technology can be used to implement the five basic competitive strategies. Many companies are using Internet technologies as the foundation for such strategies.

Basic Strategies in the Business Use of Information Technology
Lower Costs • Use IT to substantially reduce the cost of business processes. • Use IT to lower the costs of customers or suppliers.
Differentiate • Develop new IT features to differentiate products and services. • Use IT features to reduce the differentiation advantages of competitors. • Use IT features to focus products and services at selected market niches.
Innovate • Create new products and services that include IT components. • Develop unique new markets or market niches with the help of IT. • Make radical changes to business processes with IT that dramatically cut costs; improve quality, efficiency, or customer service; or shorten time to market.
Promote Growth • Use IT to manage regional and global business expansion. • Use IT to diversify and integrate into other products and services.
Develop Alliances • Use IT to create virtual organizations of business partners. • Develop interenterprise information systems linked by the Internet and extranets that support strategic business relationships with customers, suppliers, subcontractors, and others.

FIGURE 2.4 Examples of how, over time, companies have used information technology to implement five competitive strategies for strategic advantage.

Strategy	Company	Strategic Use of Information Technology	Business Benefit
Cost Leadership	Dell Computer	Online build to order	Lowest-cost producer
	Priceline.com	Online seller bidding	Buyer-set pricing
	eBay.com	Online auctions	Auction-set prices
Differentiation	AVNET Marshall	Customer/supplier of e-commerce	Increase in market share
	Moen Inc.	Online customer design	Increase in market share
	Consolidated Freightways	Customer online shipment tracking	Increase in market share
Innovation	Charles Schwab & Co.	Online discount stock trading	Market leadership
	Federal Express	Online package tracking and flight management	Market leadership
	Amazon.com	Online full-service customer systems	Market leadership
Growth	Citicorp	Global intranet	Increase in global market
	Walmart	Merchandise ordering by global satellite network	Market leadership
	Toys 'R' Us Inc.	POS inventory tracking	Market leadership
Alliance	Walmart/Procter & Gamble	Automatic inventory replenishment by supplier	Reduced inventory cost/increased sales
	Cisco Systems	Virtual manufacturing alliances	Agile market leadership
	Staples Inc. and Partners	Online one-stop shopping with partners	Increase in market share

FIGURE 2.5 Additional ways that information technology can be used to implement competitive strategies.

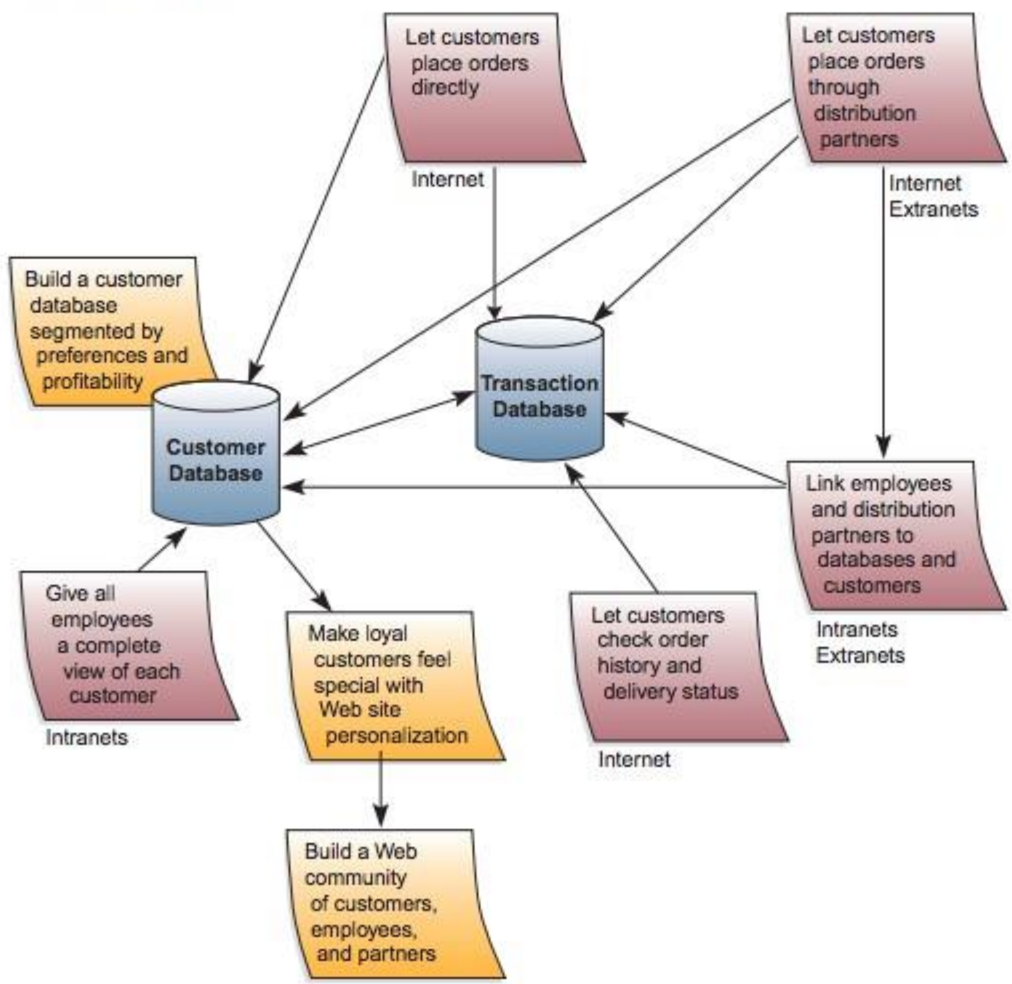
Other Strategic Uses of Information Technology
• Develop interenterprise information systems whose convenience and efficiency create switching costs that lock in customers or suppliers.
• Make major investments in advanced IT applications that build barriers to entry against industry competitors or outsiders.
• Include IT components in products and services to make substitution of competing products or services more difficult.
• Leverage investment in IS people, hardware, software, databases, and networks from operational uses into strategic applications.

Building a customer-focused business

- The customer focused-business means to keep customers loyal, anticipate their future needs, respond to customer concerns, and provide top-quality customer service.
- Companies that consistently offer the best value from the customer's perspective are those that keep track of their customers' individual preferences; keep up with market trends; supply products, services, and information anytime and anywhere; and provide customer services tailored to individual needs.
- Thus, Internet technologies have created a strategic opportunity for companies, large and small, to offer fast, responsive, high-quality products and services tailored to individual customer preferences.

- Internet technologies can make customers the focal point of customer relationship management (CRM) and other e-business applications.
- In combination, CRM systems and Internet, intranet, and extranet Web sites create new channels for interactive communications within a company, as well as communication with customers, suppliers, business partners, and others in the external environment.
- Such communications enable continual interaction with customers by most business functions and encourage cross-functional collaboration with customers in product development, marketing, delivery, service, and technical support.
- Typically, customers use the Internet to ask questions, lodge complaints, evaluate products, request support, and make and track their purchases.
- Using the Internet and corporate intranets, specialists in business functions throughout the enterprise can contribute to an effective response. This ability encourages the creation of cross-functional discussion groups and problem-solving teams dedicated to customer involvement, service, and support.
- Figure below illustrates the interrelationships in a customer-focused business.

FIGURE 2.7 How a customer-focused business builds customer value and loyalty using Internet technologies.

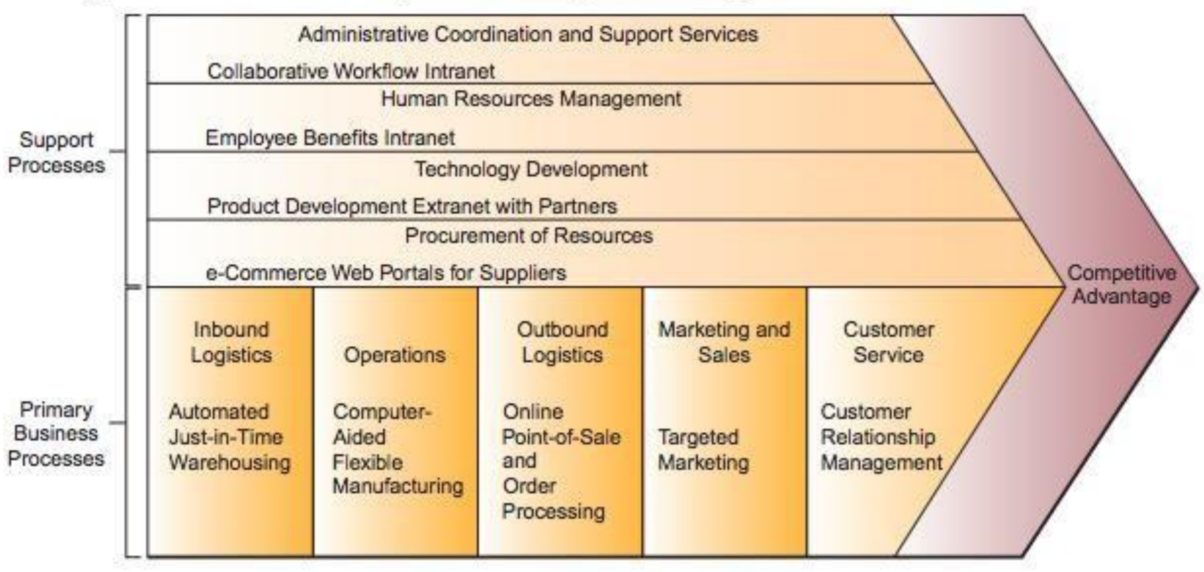


- A customer-focused business helps its e-commerce customers help themselves while also helping them do their jobs. Finally, a successful business nurtures an online community of customers, employees, and business partners that builds great customer loyalty as it fosters (encourage the development of) cooperation to provide an outstanding customer experience.

The Value Chain and Strategic IS

- The value chain concept, developed by Michael Porter, is illustrated in Figure below.
- It views a firm as a series, chain, or network of basic activities that add value to its products and services and thus add a margin of value to both the firm and its customers.
- In the value chain conceptual framework, some business activities are primary processes; others are support processes.
- **Primary processes** are those business activities that are directly related to the manufacture of products or the delivery of services to the customer.
- In contrast, **support processes** are those business activities that help support the dayto-day operation of the business and that indirectly contribute to the products or services of the organization.
- This framework can highlight where competitive strategies can best be applied in a business.
- So managers and business professionals should try to develop a variety of strategic uses of the Internet and other technologies for those basic processes that add the most value to a company's products or services and thus to the overall business value of the company.

FIGURE 2.8 The value chain of a firm. Note the examples of the variety of strategic information systems that can be applied to a firm's basic business processes for competitive advantage.



Value Chain Examples

- Figure above provides examples of how and where information technologies can be applied to basic business processes using the value chain framework.

- For example, the figure illustrates that collaborative workflow intranets can increase the communications and collaboration required to improve administrative coordination and support services dramatically.
- An employee benefits intranet can help the human resources management function provide employees with easy, self-service access to their benefits information.
- Extranets enable a company and its global business partners to use the Web to design products and processes jointly.
- Finally, e-commerce Web portals can dramatically improve procurement of resources by providing online marketplaces for a firm's suppliers.
- The value chain model in Figure above also identifies examples of strategic applications of information systems technology to primary business processes.
- These include automated just-in-time warehousing systems to support inbound logistic processes that involve inventory storage, computer-aided flexible manufacturing systems, as well as online point-of-sale and order processing systems to improve the outbound logistics processes that handle customer orders.
- Information systems can also support marketing and sales processes by developing an interactive targeted marketing capability on the Internet and the Web.
- Finally, a coordinated and integrated customer relationship management system can dramatically improve customer service.
- Thus, the value chain concept can help you identify where and how to apply the strategic capabilities of information technology.
- It shows how various types of information technologies might be applied to specific business processes to help a firm gain competitive advantages in the marketplace.